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Project Sheet: Target detection Sub-Pixel Tracking

RSC
REMOTE SENSING CENTER
at the Naval Postgraduate School

TARGET DETECTION & SUB-PIXEL TRACKING

Technology/Applications

Detection & Tracking in Infrared (IR) Video

THE MOVES INSTITUTE
NAVAL POSTGRADUATE SCHOOL

As Thermal Infrared (IR) technology improves, it moves towards real-time video imagery and increasingly higher resolution. This creates a two-fold technology disparity between collection and analysis techniques. In the simplest form, the answer is two objectives with a single purpose: to develop algorithms for detecting and tracking very small targets in IR video.

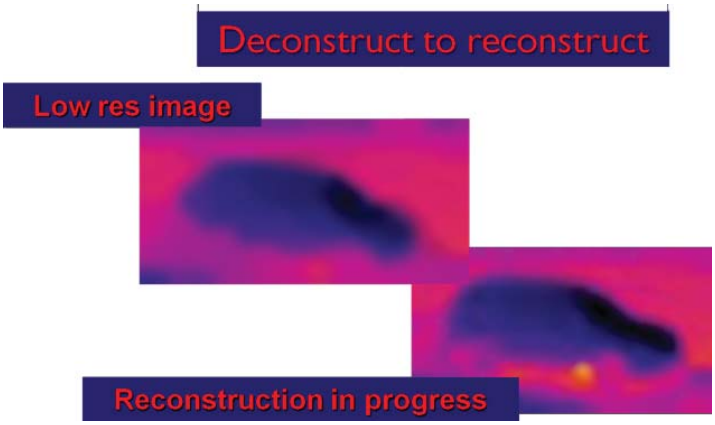
PROBLEM ANALYSIS

•Separate foreground (moving targets) from background (static components).

•Study and model the deconstruction of hi-res imagery to develop formula for artificially increasing image resolution.

•Develop or modify tracking algorithms for small objects (e.g., distant cars), even in the presence of occlusions.

Detect the moving target



APPROACH

•Probabilistic background modeling for detection

•Super-resolution Imaging

•Multi-target tracking

Good results here suggest the viability of detection and tracking using lower resolution cameras, lower quality optics, and increasing video to target distances.

For Further Information Contact:
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Current Sponsors: NGA

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